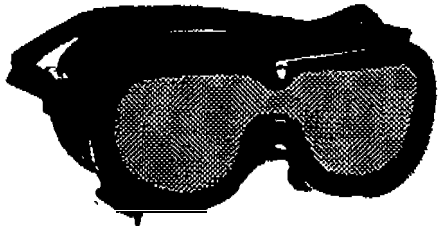
U.S. Army Center for Health Promotion and Preventive Medicine

# Just the Facts

25-009-0797

## Hazard Alert For Laser Maintenance Personnel Using Laser-Gard Type-LGA Laser Safety Goggles



**LEA Laser Eye Protection Goggles**

- **RPO'S and LSO'S**
- **Hazard Alert**
- **Laser Eye Protection**

**Purpose.**

Neodymium, Gallium Arsenide, Ruby, and ultraviolet lasers are in widespread use by the U.S. Army community. Older pairs of broad spectrum laser goggles are degrading and becoming very dark, thus, are no longer usable. Users may need to identify outdated laser eye protection and replace them with newer eye protection.

Laser Eye Protection of Concern.

Older Laser-Gard Broad Spectrum "A" Series Goggles (LGA) NSN 4240-00-258-2054

***Hazard Identification.***

Potential optical radiation health hazards include: serious eye damage from exposure to the laser beam or laser reflections, when appropriate eye protectors are not worn.

**Figure 1**

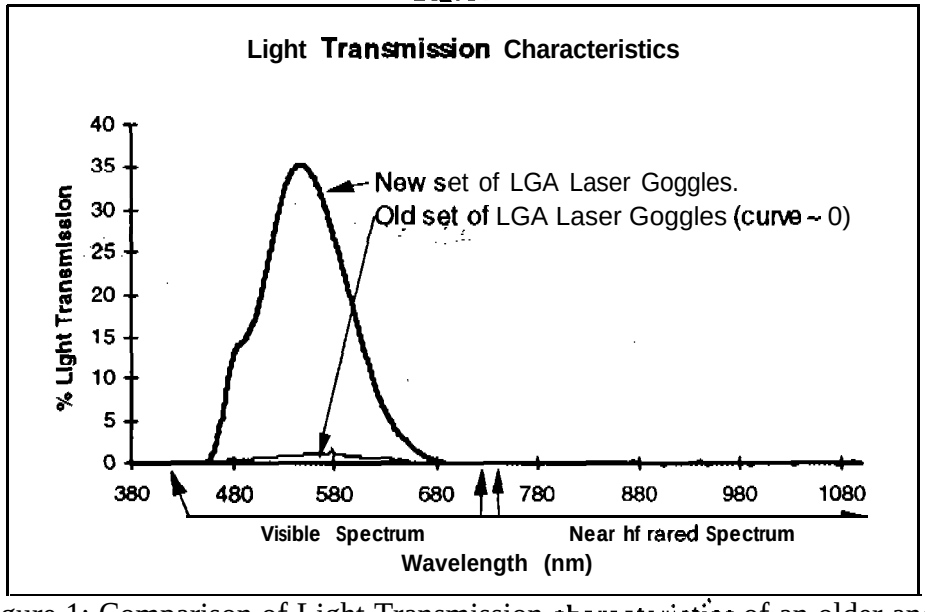



Figure 1: Comparison of Light Transmission characteristics of an older and a newer set of type-LGA laser eye protection goggles.

Laser/Optical Radiation Program
U.S. Army Center for Health Promotion and Preventive Medicine
ATTN: MCHB-DC-OLO, 5158 Blackhawk Road
Aberdeen Proving Ground, MD 21010-5422
DSN W-3932 or Commercial (410) 671-3932
e-mail: laser@aeha1.apgea.army.mil Internet: http://chppm-www.apgea.army.mil/

The older versions of the LGA Laser Goggles darken over time. The LGA goggles become opaque to visible light making them unusable. Figure 1 depicts the light transmission characteristics of both a newer set of type LGA laser eye protection goggle and an older set of type-LGA laser eye protection goggle. Although the older set of type-LGA goggles blocks the hazardous laser light it is designed for, it also blocks about 99.99% of the visible light, making the goggles useless (you can't see through them).

The problem can also be seen by observing Figure 2. The three images are what an individual may see through: (1) No laser eye protection, (2) Newer type-LGA laser eye goggles, (3) Older type-LGA laser eye goggles. The older type-LGA laser goggles are nearly opaque to visible light.

**Figure 2**

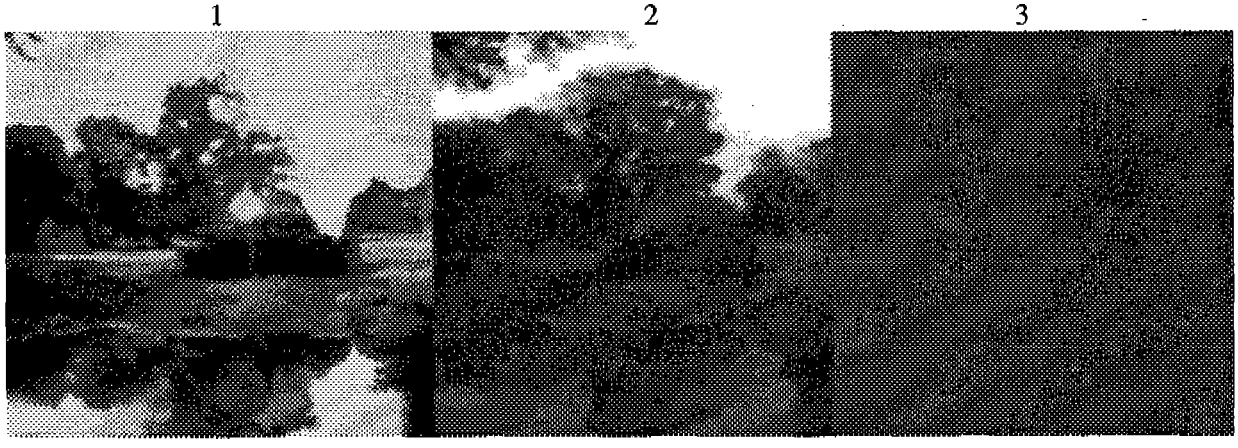



Figure 2: Comparison of (1) No Eye protection, (2) Newer type-LGA laser eye protection, (3) Older type-LGA laser eye protection.

***Conclusion.***

Maintenance personnel and their supervisors should inspect their laser eye protection regularly. If the laser eye protection is unsafe or unusable, such as for older type-LGA laser safety goggles, it should be replaced. Requests for evaluations of laser eye protection or request for sources of laser eye protection can be referred to Laser/Optical Radiation Program, USACHPPM.

***References.***

1. Memorandum, USAEHA, HSHB-RL, 11 June 1986, subject: Nonionizing Radiation Protection Study No. 25-42-0337-86, Standard-Item and Commercially Available Laser Eye Protection, Aberdeen Proving Ground, Maryland, January - March 1986.

2. Memorandum, USACHPPM, MCHB-DC-OLO, 14 April 1997, subject: Nonionizing Radiation Protection Study No. 25-MC-6079-97, AN/TVQ-2 Ground/Vehicular Laser Locator Designator (G/VLLD) Accidental Exposure, 4TH Infantry Division, Fort Hood, Texas, 24 October 1996.